

REMARKS

The claims in this case, as amended, incorporate self-supporting, permanently electrostatically charged three-dimensional filter media. The use of such filter media in the present application is neither taught nor suggested in any of the cited references, standing alone or combined. The present inventor is the first to bring together the various claimed features in a new, unique way which produces a new, important, and highly practical product. Because the filter media is permanently electrostatically charged and self-supporting, it is "field fit" capable, that is service people can cut the filter media in the field to fit it to equipment without knowing the exact size and configuration of the equipment before they arrive at the site where it is to be applied. Once installed, the electrostatic capability of the filter is not lost over time.

Claim Rejections – 35 U.S.C. § 112

Claims 6-9, 27 and 28 have been rejected under 35 U.S.C. § 112, second paragraph, for use of the phrase "type" which the Examiner argues renders the claims indefinite.

The specification makes it clear that the filter media referred to is three-dimensional, as opposed to flat or other two-dimensional type filters. Three-dimensional filters generally include a thickness component that increases the effectiveness of the filter and provides the filter with increased stability compared to two-dimensional filters. This is explained in the specification in the paragraph beginning on page 3, line 25. The term "type" has been removed from the claims that were objected to by the Examiner, while preserving this understanding of what is meant by a three-dimensional filter.

Claim 29 has been rejected under 35 U.S.C. § 112, second paragraph, for lacking an antecedent for the term "the periphery" in line 6. This claim has been amended to provide the necessary antecedent basis.

Claims 30-32 have been rejected under 35 U.S.C. § 112, second paragraph, as lacking an antecedent basis for the phrase "the media filter." These claims have been amended as suggested by the Examiner to refer to "the filter media" instead.

Claim Rejections – 35 U.S.C. § 102

Claims 1-4 and 10-14 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Bennington et al. (U.S. Patent No. 6,221,120). The Examiner argues that Bennington et al. disclose a filter assembly comprising a semi-rigid self-supporting filter media and a plurality of attachment strips attachable to the filter media and to a housing intake.

Claim 1 has been amended to specifically indicate that the filter media is permanently electrostatically charged to facilitate the pick up of dust and other airborne contaminants, and that it is made from a synthetic polymer fiber. Bennington et al. in contrast describe a screen guard comprising a wide mesh screen of perpendicular filaments. This is a two-dimensional filter directed to prevent the accumulation of cottonwood seed and similar filter forming debris on heat exchanger fin coils. It is structurally and functionally unlike the three-dimensional permanently electrostatically charged filter media of the filter assembly of the rejected claims.

Claims 15 and 23 were rejected under 35 U.S.C. § 102(b) as being anticipated by Fiske (U.S. Patent No. 5,827,340). The Examiner argues with respect to independent claim 15 that Fiske discloses a filter assembly including a filter media, a deformable frame positioned around a portion of the filter media, attaching strips and attached to the deformable frame and to a housing surrounding an inlet.

Fiske is directed to a filter kit for electronic equipment in which filter materials suitable for home furnace filter systems are attached to a flexible rubbery frame which is

affixed to the air intake of after-market electronic equipment. As in the case of Bennington et al., this patent neither teaches nor suggests the use of permanently electrostatically charged filter media which picks up dust and other airborne contaminants.

Claim 29 has been rejected under 35 U.S.C. § 102(e) as being anticipated by Bennington et al. The Examiner argues with respect to claim 29 that Bennington et al. disclose a method of mounting a filter to an air intake on a housing, forming the filter media to a desired size to match the contours of the intake, fitting attachment strips to the periphery of the filter media and securing the filter media to an intake with the attachment strips.

This rejection ignores the fundamental shortcomings of Bennington et al., namely its failure to teach or suggest the use of permanently electrostatically charged three-dimensional filter media.

Claims 29-31 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Fiske which the Examiner argues discloses a method of mounting a filter to an intake on a housing by selecting a filter media, forming the media to a desired size to match the size and contour for the intake, cutting the filter media and positioning the formable frame around the periphery of the filter media, applying attachment strips and securing the filter media to an intake with the attachment strips.

This rejection of claims 29-31 ignores the failure of Fiske to teach the use of permanently electrostatically charged three-dimensional filter media, as discussed above.

Claim 5 has been rejected under 35 U.S.C. § 103(a) as being obvious over Bennington et al. in view of Rosen (U.S. Patent No. 5,525,136). The Examiner acknowledges that Bennington et al. do not disclose a filter permanently electrostatically charged but that Rosen teaches such a feature. From this, the Examiner argues that it would have been obvious to

one of ordinary skill in the art to incorporate the permanent electrostatic charge of Rosen into the filter of Bennington et al.

Claim 5 has been cancelled. However, the permanent electrostatic charge feature of claim 5 has been introduced into claim 1 by amendment. It is submitted that Rosen fails to render this feature obvious in view of the teaching of Bennington et al. Rosen describes a filter media which is not three-dimensional, and not self-supporting. Furthermore, the structure of Rosen could not be reasonably used to deal with the cottonwood seed problem addressed by Bennington et al. and, therefore, one skilled in the art would not look to Rosen or combine Rosen with the teaching of Bennington et al.

Claim 6 has been rejected under 35 U.S.C. § 103(a) as being obvious over Bennington et al. in view of Stemmer (U.S. Patent No. 5,704,953). The Examiner acknowledges that Bennington et al. do not disclose a three-dimensional type filter media. The Examiner argues, however, that Stemmer does disclose a similar filter assembly where the filter media comprises a three-dimensional type filter. From this the Examiner argues that it would have been obvious to one of ordinary skill in the art to incorporate Stemmer's three-dimensional type filter into the Bennington et al. filter assembly.

As in the case of Fiske, Stemmer describes a filter type (pleated paper filter) which simply could not be used to address the problem with which the Bennington et al. patent is concerned. The Stemmer pleated paper filter would clog with cotton seed fibers and it would not stand up to the outside environment of the heat exchanger.

Claims 7-9 have been rejected as obvious over Bennington et al. and Stemmer as applied to claim 6 above, and further in view of Chapman (U.S. Patent No. 5,419,953). The Examiner acknowledges that Bennington et al. and Stemmer do not disclose the three-dimensional filter made from synthetic polymer fiber, but argues that Chapman discloses

forming similar filters from synthetic fibers and that it would have been obvious to form the three-dimensional filter of Bennington et al. and Stemmer using the polymer fiber of Chapman.

Claim 7 has been cancelled, but claims 8 and 9 remain in the application. These dependent claims are believed to be patentable in view of the patentability of their independent claim (amended claim 1), as discussed above. It is noted, in particular, that the media used in Chapman are not *permanently* electrostatically charged.

The Examiner argues with regard to claims 8 and 9 that while Bennington et al. do not disclose three-dimensional filters including a corrugated layer and a base layer interwoven with the corrugated layer or a three-dimensional type filter including a top layer interwoven with the corrugated layer, Stemmer discloses a similar filter assembly. From this the Examiner argues that it would have been obvious to incorporate the top layer of Stemmer into the filter of Bennington et al. to provide a pre-filter.

Dependent claims 8 and 9 are believed to be patentable based on the patentability of their independent claim (amended claim 1) for the reasons discussed above. Additionally, it is noted that the Stemmer filter media is not *permanently* electrostatically charged.

Claims 15, 22 and 24-26 are rejected as obvious over Conroy in view of Fiske. The Examiner argues that it would have been obvious to one of ordinary skill in the art to incorporate the sectional attachment strip arrangement of Fiske into the filter assembly of Conroy to allow a damaged section of the attachment strip of Conroy to be replaced without having to replace the entire attachment strip.

Among these rejected claims, claim 15 is an independent claim, which as amended, is directed to a filter assembly comprising a permanently electrostatically charged three-dimensional filter media made from a synthetic polymer fiber, a deformable frame, and

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attachment strips attached to the deformable frame that are removably attachable to a housing surrounding an inlet. Neither Conroy nor Fiske teach or suggest a permanently electrostatically charged three-dimensional filter media and, for this reason, are believed to fail to render these claims obvious.

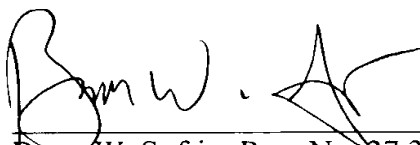
Claims 16-20 have been rejected as obvious over Fiske or Conroy and Fiske as applied to claim 15, and further in view of Roth (U.S. Patent No. 3,905,787). These dependent claims are believed to be patentable for the reasons advanced above with respect to their independent claim (amended independent claim 15).

Claim 21, which is directed to a frame including thin wall C-shaped metal channels, is rejected as obvious over Fiske or Conroy and Fiske as applied to claim 15 and further in view of Vogt et al. (U.S. Patent No. 4,689,058). This dependent claim is believed to be patentable for the reasons advanced above with respect to its independent (amended claim 15).

Conclusion

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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